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S. R. A.—Insecticide 15. Issued May 28, 1917.

U. S. DEPARTMENT OF AGRICULTURE.

INSECTICIDE AND FUNGICIDE BOARD.

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SERVICE AND REGULATORY ANNOUNCEMENTS.

No. 15.

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This announcement is a compilation of opinions of general interest regarding questions arising under the insecticide act of 1910, which have been published in Announcements 1 to 14, inclusive, in connection with notices of court judgments. The demand for the opinions is large, and in order to lessen the bulk and weight of mail packages the opinions have been separated from the notices of judgment and assembled for publication in this announcement. The dates of the original issuance of the various opinions are shown in the present announcement. It should be understood that the board is not authorized by the provisions of the insecticide act of 1910 to criticize, approve, or suggest labels; so that any advice given in the opinions is offered in an advisory capacity as representing its present knowledge and in the light of the facts presented for consideration.

S. R. A.—INSECTICIDE 1. ISSUED MARCH 16, 1914.

1. Active and inert ingredients of lime-sulphur solution.

DEAR SIR: * * * Relative to lime-sulphur solution, we are of the opinion that the active ingredients of this preparation are calcium polysulphid and calcium thiosulphate, while the inert ingredients are water and calcium sulphate. We therefore suggest either of the following as satisfactory statements for the face of the principal label:

Active ingredients:

	Per cent.
Calcium polysulphid	——
Calcium thiosulphate	——
Inert ingredients	——

or

Inert ingredients:

Water	——
Calcium sulphate	——

* * * * * * *

Respectfully,

J. K. HAYWOOD,
Chairman, Insecticide and Fungicide Board.

2. Labeling caustic soda lye.

GENTLEMEN: * * * The product should be labeled in accordance with the provisions of the Insecticide Act of 1910. We are enclosing herewith Circular 34, Office of the Secretary, which contains a copy of the above-mentioned act, together with certain regulations used in enforcing the same. We especially call your attention to section 8 of the act and regulation 16 for information relative to the ingredients required to be stated on the face of the principal label.

In caustic soda lye we are of opinion that the sodium hydroxid and sodium carbonate are active, while the sodium sulphate, sodium chlorid, etc., are inert. We therefore suggest the following as the most feasible form of statement:

Active ingredients:	Per cent.
Sodium hydroxid	——
Sodium carbonate	——
Inert ingredients	——

Respectfully,

J. K. HAYWOOD,
Chairman, Insecticide and Fungicide Board.

3. Labeling mixture of Paris green, plaster of Paris, sand, and calcium carbonate.

GENTLEMEN: * * * Section 8 of the act is specific in requiring a statement on the face of the principal label of the correct names and the percentage amounts of each and every inert ingredient and the fact that they are inert, or, in lieu of this, a statement of the correct names and percentage amounts of each and every active ingredient and the total percentage of the inert ingredients. The same section of the law requires in addition to the above for insecticides and fungicides containing arsenic (other than Paris green and lead arsenate) a statement of the total arsenic (expressed as percentum of metallic arsenic) and the arsenic in water-soluble forms (expressed as percentum of metallic arsenic). If your product consists of Paris green, plaster of Paris, sand, and calcium carbonate, we suggest the following form of statement:

Active ingredient:	Per cent.
Paris green	——
Inert ingredients	——
Total arsenic (expressed as percentum of metallic arsenic)	——
Arsenic in water-soluble forms (expressed as percentum of metallic arsenic)	——

* * * * * * *

Respectfully,

J. K. HAYWOOD,
Chairman Insecticide and Fungicide Board.

4. Active and inert ingredients of a chicken-louse powder composed of naphthalene, tobacco dust, partially air-slaked dolomitic lime, and a ferruginous mineral matter (ocher or ferruginous sand).

DEAR SIR: * * * Section 8 of the Insecticide Act of 1910 is specific in requiring a statement on the face of the principal label of the correct names and the percentage amounts of each and every inert ingredient and the fact that they are inert, or, in lieu of this, a statement of the correct names and the percentage amounts of each and every active ingredient and the total percentage of inert ingredients. In our analysis of this product we found naphthalene, tobacco dust, partially air-slaked dolomitic lime, and a ferruginous mineral material, probably either ocher or ferruginous sand. In such a mixture as the

above we are of the opinion that the naphthalene and the nicotine of the tobacco are active, while the tobacco tissue other than nicotine, the sand and dirt, and any inert denaturing substances in the tobacco used, the lime itself, and the various impurities in same, such as magnesium oxid, magnesium carbonate, silica, etc., and the ferruginous mineral matter, are inert. We therefore suggest the following form of statement on the face of the principal label for a mixture of the above composition:

Active ingredients:	Per cent.
Nicotine	——
Naphthalene	——
Inert ingredients	——

We are of the opinion that a statement of the names and percentage amounts of each and every inert ingredient in a mixture of this kind is not feasible, for the reason that different lots of commercial tobacco vary to such a marked extent in sand, dirt, and denaturing substances, and different lots of commercial lime vary so much in magnesium oxid, magnesium carbonate, calcium carbonate, calcium oxide, silica, etc., that it is practically impossible to adopt one statement that can be used on the various lots of goods. * * *

We may add that the label should be carefully gone over and any statements which are false or misleading in any particular should be removed. * * *

Respectfully, J. K. Haywood,
Chairman Insecticide and Fungicide Board.

5. Active and inert ingredients of a chicken-louse powder composed of sulphur, naphthalene, air-slaked lime, talc, and tobacco dust.

Dear Sir: * * * If the product is composed of sulphur, naphthalene, air-slaked lime, talc, and tobacco dust, then the sulphur, naphthalene, and nicotine of the tobacco dust are active, while the air-slaked lime, the various impurities in the lime, the talc, the various impurities in the talc, the tobacco other than nicotine, and the sand and dirt, together with any denaturing substances in the tobacco used, are inert. We suggest the following form of statement on the face of the principal label:

Active ingredients:	Per cent.
Sulphur	——
Naphthalene	——
Nicotine	——
Inert ingredients	——

You of course have the alternative of stating the names and the percentage amounts of *each* and *every* inert ingredient and the fact that they are inert; however, this is not a feasible form of statement for mixtures of this kind, since it requires not only names and percentage amounts of the materials added by you, but also the names and the percentage amounts of the various impurities in these materials, such as ferric oxid and alumina and magnesium oxid in the lime, alumina and other impurities in the talc, and sand and dirt, which are practically always present in commercial tobacco dust. Since the various impurities mentioned vary to a considerable extent in different batches of the materials, it would be practically impossible for you to adopt a statement, giving the names and the percentage amounts of each and every inert ingredient, that could be applied to all of your goods.

In the statement suggested by you not only do you fail to give the names and percentage amounts of the various inert impurities in the materials used

by you, but you list tobacco dust as an inert material. Tobacco dust as a whole is not inert; the nicotine is active, while the tobacco-issue other than nicotine and any sand, dirt, or denaturing substances in the tobacco dust are inert. * * *

Respectfully,

J. K. HAYWOOD,
Chairman, Insecticide and Fungicide Board.

6. Labeling of a chicken-louse powder composed of naphthalene, tobacco, pyrethrum, and talc.

GENTLEMEN: * * * If this mixture is composed of naphthalene. tobacco, pyrethrum, and talc, then the naphthalene, nicotine of the tobacco, and pyrethrum are active, while the talc, the tobacco other than nicotine, and the sand and dirt in the tobacco, together with any denaturing substances, such as lime, that may be present in the tobacco, are inert. The following form of statement is suggested for your consideration, which, if adopted, should appear on the face of the principal label:

Active ingredients:	Per cent.
Nicotine	——
Naphthalene	——
Pyrethrum	——
Inert ingredients	——

* * * * * * *

The following expression is noted on the new label: "For insects and bugs on plants and vines." We are of the opinion that this claim is too comprehensive, since the product would be of no service against certain insects and bugs on plants and vines. It is therefore suggested that the words "insects and bugs" be modified by some such words as "certain" or "some." * * *

Respectfully,

J. K. HAYWOOD,
Chairman Insecticide and Fungicide Board.

7. Labeling a chicken-louse powder composed of naphthalene, pyrethrum, tobacco powder, partially air-slaked dolomitic lime, and sand.

DEAR SIR: * * * We also note that all claims relative to disinfectant and antiseptic properties have been satisfactorily removed. However, there are two statements that are still faulty. You say "Generally kills lice * * * as well as bugs and worms on some vines and vegetables." We are of the opinion that this should be changed to read "Generally kills lice * * * as well as some bugs and worms on some vines and vegetables." You also say on your label "To kill ticks part the wool and dust * * * onto the skin." This statement should be removed, since the preparation would not be effective against all ticks. * * *

Respectfully,

J. K. HAYWOOD,
Chairman Insecticide and Fungicide Board.

8. Labeling a chicken-louse powder composed of slaked lime, naphthalene, creosote oil, powdered tobacco, talc, and mineral red.

GENTLEMEN: * * * If this preparation consists of slaked lime, naphthalene, creosote oil, powdered tobacco, talc, and mineral red, we are of the opinion that the slaked lime, talc, mineral red, and all the tobacco other than nicotine are inert, while the naphthalene, creosote oil, and nicotine of tobacco are active.

As the most feasible form of statement on the face of the principal label of a mixture of this composition, we suggest the following:

Active ingredients:	Per cent.
Nicotine	——
Creosote oil	——
Naphthalene	——
Inert ingredients	——

* * * * * * *

It is also noted that the new label claims "Designed especially for destroying lice and other vermin on poultry, animals, and plants." * * * We are of the opinion that the expression should read "certain other forms of vermin" rather than "other vermin," since the expression as it stands is too comprehensive. * * *

Respectfully,

J. K. HAYWOOD,
Chairman Insecticide and Fungicide Board.

9. Labeling a chicken-louse powder composed of naphthalene, tobacco, sulphur, talc, and partially air-slaked lime.

GENTLEMEN: * * * We also note on your label for this product that you say "Sure death to lice and other insects on poultry" and "Directions for destroying lice and other insects on poultry." We are of the opinion that this claim and the directions are too broad, since the product will not kill all insects on poultry besides lice. We suggest that the words "other insects" in both of these phrases be modified by some such word as "certain," "some," or "many," according to which word expresses the true facts of the case.

Respectfully,

J. K. HAYWOOD,
Chairman, Insecticide and Fungicide Board.

10. Labeling a chicken-louse powder composed of tobacco, sulphur, naphthalene, phenols, air-slaked lime, sand, and magnesium silicate.

GENTLEMEN: * * * According to our analysis of your product, it consists essentially of tobacco, sulphur, naphthalene, phenols, air-slaked lime, sand (perhaps added in the tobacco used), and perhaps some magnesium silicate. In a mixture of this kind we are of the opinion that the sulphur, naphthalene, phenols, and nicotine are active, while the tobacco other than nicotine, the air-slaked lime, the sand, and magnesium silicate are inert. We therefore suggest the following form of statement on the face of the principal label:

Active ingredients:	Per cent.
Nicotine	——
Sulphur	——
Naphthalene	——
Phenols	——
Inert ingredients	——

We also note on the label the statement "Excellent for freeing plants and vines of lice and insects." We are of the opinion that the word "insects" should be modified by some such word as "certain" or "many," since the product will not free plants and vines of all insects. Whether or not it will free plants and vines of lice, we are unable to say in the absence of tests; however, you are responsible for the claim.

We also note on the label the statements "For horses, cattle, sheep, dogs, etc.," and "For vines, bushes, garden plants, etc." We are of the opinion that

these expressions as they stand are too comprehensive, since they indicate that the product will be of service for any insect that may be present on horses, cattle, sheep, dogs, vines, bushes, garden plants, etc. We suggest that these claims either be removed or that the recommendations be limited to specific insects. * * *

Respectfully,

J. K. Haywood,
Chairman, Insecticide and Fungicide Board.

11. Active and inert ingredients of Bordeaux mixture paste.

Dear Sir: * * * While in most cases the board is of the opinion that it is necessary to state definite percentages for active and inert ingredients, we realize that for pastes such a form of statement is very impracticable. Such being the facts, we would not consider that the law was being violated if the following form of statement appeared on Bordeaux mixture paste labels:

Active ingredient:	Per cent.
Copper not less than	——
Inert ingredients not more than	——

It is of course to be understood in the above statement that the figures given will closely approximate the exact percentages present and will not be absurd statements of the ingredients in question.

We are not favorable to a sliding form of statement, i. e., from a certain percentage to a certain percentage, since in selling the goods it is always the tendency of the agent to claim the higher figure for active ingredients and the lower figure for inert ingredients.

Respectfully,

J. K. Haywood,
Chairman, Insecticide and Fungicide Board.

12. False and misleading statements on Bordeaux mixture label.

Gentlemen: * * * On the face of the principal label we note the statement "For blights, rots, scabs, blotches, etc.," and are of the opinion that the abbreviation "etc." should be removed and the words "blights, rots, scabs, blotches" modified by some such word as "some" or "certain," since the product would not be of service against all blights, rots, scabs, and blotches and the abbreviation "etc." is too comprehensive.

Under the directions we note the statement "Apple blotch * * * grape diseases * * * etc., are best controlled by the use of * * *." We are of the opinion that the words "grape diseases" should be modified by some such word as "certain," "some," or "many" and the abbreviation "etc." should be removed, since Bordeaux mixture will not control all grape diseases and the abbreviation "etc." is too comprehensive. We also note the expression "The larger quantity will protect potato, grape, and other fruits" and are of the opinion that the words "other fruits" should be modified by some such word as "some" or "certain," since the statement as it stands indicates that the product is to be used on all fruits in addition to the grape. If it were used on certain fruits, such as peach and Japanese plum, it would cause serious foliage injury. We also note the expression "Use for rots, scabs, and other fungous diseases" and are of the opinion that the words "rots, scabs, and other fungous diseases" should be modified by some such word as "some," "certain," or "many," since the product would not be of service against all rots or scabs nor would it be of service against all other fungous diseases.

On the first panel of the labels submitted, we note the expression "In summer spraying of fruits, it will be the best practice to use with all Bordeaux mixture a large excess of lime to prevent spray injury, * * *." We are of the opinion that this should be changed to read somewhat as follows: "In summer spraying of those fruits on which Bordeaux mixture is applicable, it will be the best practice * * *," and that for the word "prevent" should be substituted some such words as "aid in preventing." As the statement now stands, it indicates that the product is to be used on all fruits, when in fact it should not be used on such tender foliage as that of the peach and Japanese plum. Also the statement should not be made that the addition of lime will prevent spray injury. * * *

Respectfully,

J. K. Haywood,
Chairman, Insecticide and Fungicide Board.

13. False and misleading statements on Bordeaux mixture label.

Gentlemen: * * * We also note on this label the expression "The best remedy known for blight and fungous diseases attacking potatoes, tomatoes, and grapevines; apple, pear, and peach trees; small fruits, shrubs, and vegetables." This statement is too broad in that the preparation will not control certain blights, such as fire blight of apple and pear, and is not a good remedy for all fungous diseases. Also, if the preparation were used on peach foliage and for early application on the apple, it has been the experience of this Department and others that it will often seriously injure peach foliage and often cause serious russeting of apples, and thus be adulterated under the last paragraph of section 7 of the act. We therefore suggest that the words "blight" and "fungous diseases" be modified by some such word as "some" or "many," that the recommendation for use on peach trees be removed, and that the recommendation for use on the apple be limited to late summer applications. * * * Bordeaux mixture, if used on apple, should be only used for late summer applications where such are necessary to control bitter rot or apple blotch. We therefore suggest that the directions for "apples" state plainly that the preparation is only to be used for such late applications.

Under directions for "Plum," we find "For curculio use No. 2 and No. 3 just before blossoms open and again after they fall." We are of the opinion that this recommendation should be removed, since it is decidedly unsafe to use Bordeaux on Japanese plum foliage and therefore it can not be safely applied after the trees have leaved out in the spring. Here again the directions are such that if followed the product would probably be adulterated under the last paragraph of section 7 of the act.

Under directions, we find "Peach * * * same treatment as for plum." The same criticism applies to these directions as applies to the directions for "plum." * * *

Respectfully,

J. K. Haywood,
Chairman, Insecticide and Fungicide Board.

14. Active and inert ingredients of Bordeaux-arsenate of lead compound, and false and misleading statements in label.

Gentlemen: * * * We regret to inform you that the statement relative to active and inert ingredients and relative to total arsenic and arsenic in water-soluble forms is not satisfactory. We are of the opinion that in this mixture the lead arsenate, exclusive of its moisture, and copper of the Bordeaux are active, while the remaining ingredients are inert. We are also of the opinion that the total arsenic and arsenic in water-soluble forms should appear in a separate

statement from the active and inert ingredients. We therefore suggest the following form of statement on the face of the principal label:

	Per cent.
Active ingredients:	
Dry lead arsenate	——
Copper of Bordeaux	——
Inert ingredients	——
Total arsenic (expressed as percentum of metallic arsenic)	——
Arsenic in water-soluble forms (expressed as percentum of metallic arsenic)	——

We note on this label the expression "* * * A combined insecticide and fungicide for use on all vegetation attacked by fungi and leaf-eating insects." This claim is entirely too broad, since the product can not safely be used on the vegetation of tender plants, such as the peach and Japanese plum, and also since the product is not of service for all fungi and all leaf-eating insects. We therefore suggest that this expression be removed or modified.

We note on this label the expression "This preparation is a stomach poison for all leaf-eating insects and a remedy for fungous diseases." We are of the opinion that the claim is too comprehensive and should be modified by replacing the word "all" by "most" or "many" and modifying the words "fungous diseases" by some such word as "most" or "many."

We note on this label the expressions "For apple and pear * * * against * * * blight, * * * use 1 lb. to 5 gallons of water; spray first before blossoms open and again directly after the petals fall; three weeks later repeat." This direction is subject to the same criticism made in connection with the Bordeaux mixture label, in that Bordeaux mixture should not be used for early applications on apples, since it is likely to cause russeting. Also, the claim for "blight" is too broad, since the most well-known blight of apple and pear is the fire blight, a bacterial disease which can not be controlled by spraying. We therefore suggest that the directions for "apples" state plainly that the preparation is only to be used for late summer applications and that the word "blight" be modified by some such words as "some" or "certain." * * *

Respectfully, J. K. Haywood,
Chairman Insecticide and Fungicide Board.

15. Active and inert ingredients in dry Bordeaux mixture and Paris green.

Gentlemen: * * * If this preparation is dry Bordeaux and Paris green, we are of the opinion that the Paris green and copper of the Bordeaux are active while the remaining ingredients of the Bordeaux are inert. We are also of the opinion that the total arsenic and arsenic in water-soluble forms should appear in a separate statement from the active and inert ingredients. We therefore suggest the following form of statement horizontally on the face of the principal label:

	Per cent.
Active ingredients:	
Paris green	——
Copper of Bordeaux	——
Inert ingredients	——
Total arsenic (expressed as percentum of metallic arsenic)	——
Arsenic in water-soluble forms (expressed as percentum of metallic arsenic)	——

* * * * * * *

Respectfully, J. K. Haywood,
Chairman Insecticide and Fungicide Board.

16. Active and inert ingredients of hellebore.

GENTLEMEN: * * * On the "Hellebore" label, we note that there is no statement relative to active and inert ingredients. We are of the opinion that in hellebore the only active ingredients are the total alkaloids, while the remainder of the hellebore is inert. We therefore suggest the following form of statement on the face of the principal label, which is in this case the left panel.

	Per cent.
Active ingredients:	
Total alkaloids	——
Inert ingredients	——

On this label we note the expression "Destroys eating insects on plants, * * *." We are of the opinion that the words "eating insects" should be modified by some such word as "many" or "some." On this same label is a statement "* * * Hellebore is a valuable insecticide and repellant to *all* eating insects, * * *" We are of the opinion that the word "all" should be replaced by some such word as "some" or "many." * * *

Respectfully,

J. K. HAYWOOD,
Chairman Insecticide and Fungicide Board.

17. Active and inert ingredients of a roach and ant killer, and false and misleading statements on the label.

GENTLEMEN: * * * Relative to the label for your "Roach and Ant Killer," we beg to inform you that it is not satisfactory to merely say "18% inert materials," but a statement is required on the face of the principal label of the correct names and percentage amounts of each and every inert ingredient and the fact that they are inert, or, in lieu of this, a statement of the correct names and percentage amounts of each and every active ingredient and the total percentage of inert ingredients. * * *

Relative to the expression "destroys cockroaches * * * and other crawling pests" we are of the opinion that the preparation would not kill all "other crawling pests"; hence the claim should be modified or removed. * * *

Under "Directions" on this label, we note in two or three places that the product is recommended for "roaches, ants, *and other vermin.*" We are of the opinion that the words "other vermin" should be modified by some such word as "some" or "certain." * * *

Respectfully,

J. K. HAYWOOD,
Chairman Insecticide and Fungicide Board.

S. R. A.—INSECTICIDE 2. ISSUED APRIL 17, 1914.

18. Active and inert ingredients of bleaching powder or chlorinated lime.

GENTLEMEN: We have received your communication of * * * relative to labeling so-called "Chloride of Lime" or "Bleaching Powder."

In view of the fact that this product is a disinfectant, we are of the opinion that it is subject to the provisions of the Insecticide Act of 1910, regardless of whether any directions are given on the label.

Section 8 of the act is specific in requiring a statement on the face of the principal label of the correct names and percentage amounts of each and every inert ingredient and the fact they are inert, or in lieu of this a statement of the correct names and percentage amounts of each and every active ingredient and the total percentage of inert ingredients. In such a preparation we are of the opinion that the available chlorine is active, while the remaining ingredients are inert. We therefore suggest the following as the most feasible form of statement:

Active ingredient:	Per cent.
Available chlorine	——
Inert ingredients	——

In view of the fact that the designation chloride of lime for this preparation is somewhat misleading, in that the product is not composed of calcium chlorid ($CaCl_2$), we suggest that it would be preferable to refer to it as "Chlorinated Lime or Bleaching Powder."

Respectfully,

J. K. Haywood,
Chairman Insecticide and Fungicide Board.

19. Injury to tender foliage by concentrated lime-sulphur solution.

Dear Sir: * * * Our tests, as well as the tests of others, have shown that concentrated lime-sulphur solution at 1 to 40 or at any other effective strength is not a safe application for tender foilage, such as peach and Japanese plum. * * * If, then, your product causes injury when used as directed on peach and Japanese plum it would be adulterated under the provisions of the last paragraph of section 7 of the act. * * * As a protection, therefore, to yourself as well as to the consumer, we suggest that you make no mention of the use of this diluted preparation as a fungicide on peach, Japanese plum, and other delicate foilage. In fact we suggest to you, as we have suggested to other manufacturers, that the label distinctly say that the product is not to be used as a summer spray on peach, Japanese plum, and other delicate foliage.

Respectfully,

J. K. Haywood,
Chairman Insecticide and Fungicide Board.

20. False and misleading statements on a concentrated lime-sulphur label.

Gentlemen: * * * We note on your labels the claim "For killing * * * larvæ of insects, sucking insects and controlling fungous diseases" and are of the opinion that the product will not kill the larvæ of some insects, will not kill all sucking insects, and will not control all fungous diseases. We suggest, therefore, that the words "insects, sucking insects," and "fungous diseases" be modified by some such word as "some" or "certain." * * * We note on your label the statement "To control peach brown rot and scab use 1 part of lime-sulphur wash to 80 to 100 parts of water. Make first application just after blossoms fall." We are of the opinion that this recommendation should be removed, since it indicates that the preparation can be safely used at this strength as a summer spray on peaches, whereas when so used serious injury is likely to result. We note on your label the statement, "For * * * plum rot use 1 part to 50 of water," and are of the opinion that this statement should

be removed, since it indicates that the product can be safely used on this plant, whereas it can not be safely used on Japanese plum foliage. * * *

Respectfully,

J. K. HAYWOOD,
Chairman Insecticide and Fungicide Board.

21. Active and inert ingredients of formaldehyde solution and false and misleading statements.

GENTLEMEN: * * * In formaldehyde solution we are of the opinion that the formaldehyde itself is active, while the methyl alcohol and water are inert. We therefore suggest either of the following forms of statement on the face of the principal label:

	Per cent.
Active ingredients:	
Formaldehyde	——
Inert ingredients	——

or

	Per cent.
Inert ingredients:	
Water	——
Methyl alcohol	——

We note that you claim on your label 40 per cent, by weight, of gas, and are inclined to doubt this statement. Probably what you refer to is "40 grams per 100 c. c.," often incorrectly referred to as "40 per cent by volume."

Whether or not the various claims made on your label are in accordance with facts we are unable to say in the absence of tests. However, you of course understand that you are responsible for all claims on the labeling. We note on the label the statements, "It is very effective in destroying the foul odors frequently prevalent in sick rooms * * *" and "Excrementitious matter is entirely deodorized by formaldehyde * * *." We are inclined to doubt whether the product will overcome all foul odors of sick rooms and also whether it will entirely deodorize excrementitious matter. We also note the statement "A 1 to 2 per cent solution in flat dishes placed in a part of the room least likely to be disturbed will keep the atmosphere of the bedroom fresh and odorless" and are of the opinion that this claim is probably not true.

Respectfully,

J. K. HAYWOOD,
Chairman Insecticide and Fungicide Board.

22. Active and inert ingredients of tobacco dust.

GENTLEMEN: * * * We are of the opinion that tobacco dust is an insecticide under the provisions of the Insecticide Act of 1910 and is therefore subject to the provisions of said act. * * * In tobacco dust we are of the opinion that the nicotine only is active, while the tobacco other than nicotine, sand, dirt, and inert denaturing substances that may be used in the tobacco dust are inert. We therefore suggest the following as the most feasible form of statement on the face of the principal label:

	Per cent.
Active ingredient:	
Nicotine	——
Inert ingredients	——

* * * * * * *

Respectfully,

J. K. HAYWOOD.
Chairman Insecticide and Fungicide Board.

23. Active and inert ingredients of kerosene emulsion.

GENTLEMEN: * * * In Kerosene emulsion we are of the opinion that the kerosene and dry soap are active while the water is inert. We therefore suggest either of the following forms of statement on the face of the principal label, expressed in percentage by weight:

	Per cent.
Active ingredients:	
Kerosene	——
Dry soap	——
Inert ingredients	——

or

Inert ingredient, water	——

Respectfully,

J. K. HAYWOOD,
Chairman Insecticide and Fungicide Board.

24. False and misleading statements on creosote dip label relative to mange, ticks, etc.

GENTLEMEN: * * * The statement "John Doe's Creosote Dip * * * for lice, ticks, scab, mange, and all parasites and skin diseases of sheep, cattle, horses, pigs, dogs, and chickens" is too comprehensive. Certain forms of ticks, notably the cattle tick; certain forms of mange, for example, follicular mange; and certain parasites and certain skin diseases which infest or affect the animals mentioned would not be effectively treated. It is suggested that the word "ticks" in this paragraph be removed or properly modified; that the word "mange" be modified through the use of some qualifying word, as for example "ordinary" mange; and that the statement "and *all* parasites and skin diseases" be also modified through the use of some qualifying word or words, as for example, "and *many forms of* parasites and *many* skin diseases."

* * * The statement "non-carbolic" should be removed, as the article is prepared from coal-tar creosote oil, which contains small amounts of phenol or carbolic acid. * * *

Respectfully,

J. K. HAYWOOD,
Chairman Insecticide and Fungicide Board.

25. False and misleading statements on a poultry disinfectant label.

GENTLEMEN: * * * We regret to inform you that the label submitted is not satisfactory. On the face of the principal label, we note the statement "kills lice, mites, and ticks." This should be modified so as not to include all varieties of ticks. It is suggested that the word "ticks" be modified through the use of a qualifying word, such as "sheep" ticks.

The word "mange," which occurs in a number of places on the label, should be modified in all cases, as all forms of mange are not effectively treated through the use of the article, and some qualifying word, such as "ordinary" mange, should appear.

Under "Household Uses," the statement "skin diseases" should be modified through the use of some qualifying word, such as "some' 'or "certain," since the product will not be of service in all skin diseases.

It is further advised that the use of the words "cure" or "Use until cured" in connection with various directions appearing on the label is unsatisfactory, as a cure for a disease or condition can not be promised. We note such use of the word "cured" under "Eczema of hogs," "Ringworm of dogs," and "Foot diseases of poultry." We also note the statement "To prevent poultry dis-

eases," and we are of the opinion that this should be modified so as to include only "some," "certain," or "many" poultry diseases, since the product would not be effective against *all* poultry diseases, and in any case the prevention of a disease can not be promised, the article merely acting as a preventive measure in *many* or *certain* poultry diseases. * * *

Very respectfully,

J. K. HAYWOOD,
Chairman Insecticide and Fungicide Board.

26. Labeling a coal-tar disinfectant.

GENTLEMEN: * * * If your product is an emulsifiable coal-tar preparation containing soap and water, as statements on the label indicate, we are of the opinion that the water present is inert, while the soap, phenols, and coal-tar hydrocarbons are active. We therefore suggest either of the following statements on the face of the principal label:

	Per cent.
Active ingredients:	
Coal-tar hydrocarbons	——
Phenols	——
Dry soap	——
Inert ingredients	——

or

Water, inert ingredient	——

We note on the label the statement "is harmless to animals" and are of the opinion that this should be removed if the product contains phenols, since these are poisonous. We also note the expressions "For all skin diseases," "For all diseases of the throat," "To destroy foul odors," "This will kill all disease germs and vermin," and "To keep the air pure." We are of the opinion that the product would not be of service in all skin diseases and all diseases of the throat, would not actually destroy foul odors, would not kill all vermin, and would not necessarily purify the air. We suggest, therefore, that the words "skin diseases" and "diseases of the throat" be modified by some such word as "some," "certain," or "many"; that the expression reading "to destroy foul odors" be changed to read "to overcome certain (or many) foul odors," or words of similar import; that the words "disease germs" and "vermin" be modified by some such word as "some," "certain," or "many," and that the claim that this product will keep the air pure be removed. * * *

Respectfully,

J. K. HAYWOOD,
Chairman Insecticide and Fungicide Board.

27. Labeling so-called "Whale Oil Soap."

GENTLEMEN: We have received your communication of * * * requesting information relative to labeling "Whale Oil Soap" under the provisions of the insecticide act of 1910.

For your information we are inclosing Circular 34, which contains a copy of the above-mentioned act, together with certain regulations used in enforcing the same. We especially call your attention to section 8 of the act, and regulation 16, for information relative to ingredients requiring statements on the label. We call your attention to regulation 10 for a definition of label.

In such a soap as this, we are of the opinion that the water is inert while the dry soap is active. We therefore suggest either of the following forms of statement on the face of the principal label:

Active ingredient	Per cent.
Dry soap	——
Inert ingredients	——

or

Inert ingredient, water	——

We also wish to call your attention to the fact that the product should not be labeled "Whale Oil Soap" unless it is actually made from whale oil. If it is made from fish oil, it should be labeled "Fish Oil Soap." * * *

Respectfully,

J. K. HAYWOOD,
Chairman Insecticide and Fungicide Board.

S. R. A.—INSECTICIDE 3. ISSUED MAY 23, 1914.

28. General advice relative to labeling.

GENTLEMEN: We have received your communication of * * * transmitting your catalogue and requesting our advice relative to same.

While we are glad to be of service in an advisory capacity, we have found that we must limit our work along this line to labels. It is absolutely impossible for us with our present force to criticize all the advertising literature of manufacturers.

We are of the opinion that with our criticisms of your labels before you, and the employment of competent scientists to advise you, you will have no trouble in wording your literature so that it will be in conformity with law.

As a matter of general advice, we may say that the following points should receive your most careful consideration:

1. No statements should be made that are false or misleading in any particular.

2. Too comprehensive or too assertive claims should not be made.

3. No claim should be made that a product will be effective against certain insects or fungi, unless you are assured that these claims are true, either on the basis of carefully executed experiments carried out under the directions of your own scientists or on the basis of carefully planned and executed experiments published in the most modern literature.

4. Claims should not be made on the basis of old literature which claims have been disproved by more modern and more carefully executed published experiments.

5. Directions for using certain preparations on certain vegetation should not be made if such applications will lead to serious burning. In this connection the known fact that early applications of Bordeaux to apples will cause serious russeting, that applications of Bordeaux to such tender foliage as peach and Japanese plum will cause serious burning, that applications of Bordeaux to the foliage of certain varieties of cherries will often cause serious burning, and that application of diluted lime-sulphur solution to such tender foliage as peach and Japanese plum will cause serious burning, should be taken into consideration.

Respectfully,

J. K. HAYWOOD,
Chairman Insecticide and Fungicide Board.

29. Labeling a chicken-louse powder composed of naphthalene, sulphur, lime, charcoal, and tobacco.

GENTLEMEN: We have received your communication * * * relative to labeling a "Louse Killer" under the provisions of the insecticide act of 1910.

* * * If your louse killer consists of naphthalene, sulphur, lime, charcoal, and tobacco, we are of the opinion that the naphthalene, sulphur, and nicotine of the tobacco are active, while the lime, the various impurities in same, the charcoal, and the tobacco other than nicotine, as well as any sand, dirt, and inert denaturing substances in the tobacco used, are inert. We therefore suggest the following as the most feasible form of statement on the face of the principal label, which in the case of * * * louse killer is the middle panel of the label:

Active ingredients:	Per cent.
Naphthalene	——
Sulphur	——
Nicotine	——
Inert ingredients	——

We can only suggest that it will be necessary for you to have your nicotine determined in the various batches of tobacco which you use in this preparation. If the nicotine varies in different batches, then it will be satisfactory to express your nicotine as "nicotine not less than — per cent," provided that the nicotine is never less than the percentage given, and that the percentage given approximates the amount actually present in the tobacco and is not an absurd statement of same.

We note that on the so-called * * * louse exterminator label the product is designated an "exterminator," and in several places elsewhere on the label it is referred to as an "exterminator." In view of the fact that the extermination of lice and mites can not be promised, the word "exterminator" should be replaced by some less comprehensive word, such as "killer" or "remedy" or "powder."

* * * We note that this label claims: "For disinfecting the henhouse and killing out the vermin * * *." From the composition of this product we are of the opinion that it would not be an effective disinfectant (killer of bacteria), nor would it kill all vermin; hence the above statement should be removed.

We note that you claim "Furs and carpets are never moth-eaten where this product has been applied." Whether or not this is true we are unable to say; however, the claim should not be made unless it is in strict accordance with facts.

Hoping the above will be of service, I am,

Respectfully,

J. K. Haywood,
Chairman Insecticide and Fungicide Board.

30. Labeling a chicken-louse powder composed of tobacco stems, sulphur, naphthalene, and plaster of Paris.

Gentlemen: We have received your communication of * * * relative to the labeling of your "Lice and Vermin Destroyer."

We regret to inform you that the limit of time for using supplementary sticker labels to give the information required by law expired January 1, 1912. At the present time it is necessary for this information to be plainly printed or stamped on the face of the principal label. * * *

Relative to the active and inert ingredients of a lice destroyer composed of tobacco stems, sulphur, naphthalene, and plaster of Paris, we are of the opinion that the nicotine of the tobacco stems, the sulphur, and the naphthalene are active, while the tobacco stems other than nicotine, the sand and dirt, and any inert denaturing substances in the tobacco stems and the plaster of Paris are

inert. We therefore suggest the following as the most feasible form of statement on the face of the principal label:

	Per cent.
Active ingredients:	
Nicotine	——
Sulphur	——
Naphthalene	——
Inert ingredients	——

On the first and third panels of your label and in several other places on the label we note that the product is referred to as a vermin destroyer. In view of the fact that the product will not be of service against all vermin, we are of the opinion that this designation should be removed. On the first panel of the label appears the statement, "Kills insects on poultry, stock, plants, etc." In view of the fact that the product will not kill all insects, the word "insects" should be modified by some such word as "some," "certain," or "many," or the specific insects against which the product will be effective should be enumerated.

On the second panel of the label, under directions, we note the statement, "A handful of powder scattered about the nest box will keep the * * * fowl free from lice." We are of the opinion that this treatment would probably not be effective in freeing fowls of lice.

On the third panel of the label, in addition to the use of the words "Vermin Destroyer" already called to your attention, we note the statements: "It is also of value for insects on plants and vegetables. * * * If you want to destroy * * * all kinds of vermin on poultry and in the poultry house, use * * *." In view of the fact that the product will not be of service against all insects on plants and vegetables and will not destroy all kinds of vermin on poultry and in the poultry house, we suggest that the word "insects" be modified by some such word as "some," "certain," or "many," and that the phrase "all kinds of vermin" be similarly changed. * * *

Respectfully,

J. K. Haywood,
Chairman Insecticide and Fungicide Board.

31. Labeling a liquid disinfectant and insecticide composed of kerosene, carbolic acid, oil of myrbane, and naphthalene.

Gentlemen: We have received your communication of * * * relative to labeling your "Disinfectant and Insect Killer" under the provisions of the Insecticide Act of 1910.

* * * In a product which is to be used against bedbugs, chicken lice, * * * we are of the opinion that the kerosene of your mixture, the carbolic acid, the oil of myrbane, and the naphthalene are all probably active, hence no statement is required relative to active and inert ingredients if the above ingredients are pure. If, however, any of the ingredients, such as the carbolic acid, contains water, then the water is inert, and the amount of same in the finished product should be stated on the face of the principal label, as "Water, Inert Ingredient, —— per cent."

We note that this product is designated a disinfectant, and several statements relative to disinfectant qualities are made on the label. From the composition of the article and the very small quantity of carbolic acid present we are very doubtful as to whether this preparation would act as an effective disinfectant, i. e., killer of bacteria. We suggest, therefore, that you satisfy yourself that

this product is an effective disinfectant by having it tested by a competent bacteriologist before making the claims relative to disinfectant qualities.

In addition to the above, on the left-hand panel of your label appears the statement, "Kills * * * moths * * * and ticks on cattle, etc." We are of the opinion that the product would not kill all moths, would not be effective against ticks on cattle, and that the abbreviation "etc." is too comprehensive. We suggest, therefore, that the statement be limited to "clothes moths," in case this is the moth against which it will be effective, that the statement relative to ticks on cattle be removed, and that the abbreviation "etc." be removed. We also note on this panel of the label the statement, "Kills all kinds of vermin on trees," and are of the opinion that this is not true.

On the second panel of the label we note the statement, "It will kill anything in the insect family instantly," and are of the opinion that this should be removed. A false statement on the label is not justified, even though it be given as the opinion of an expert.

* * * On the same panel, under "Animals," we note the statement, "Kills everything in insect life," and are of the opinion that this should be removed. Again, under "Disinfectant," we note, " * * * Disinfectant has no superior as a disinfectant" and "* * * all insect life will be exterminated, bad odors expelled, and wholesome and pure air prevail. Its effects are instantaneous in every case." As we have said before, we doubt whether the product is an effective disinfectant. Even if it is an effective disinfectant, it is not superior to all others, will not exterminate all insect life, will not expel all bad odors, but will simply mask some bad odors and will not act instantaneously. Neither can it be promised that the product will produce wholesome and pure air.

Whether or not the statement on the right-hand panel of your label that the product is used in nearly all the large public institutions and hospitals throughout the Middle West is in accordance with facts we are unable to say. We note on this panel the statement, "Every doctor will recommend it whenever there are any contagious diseases," and "* * * kills all germs and bugs." We are of the opinion that the first statement is not true, that the product will probably not kill all germs, and that the product will certainly not kill all bugs.

Hoping the above will be of service, I am,

Respectfully,

J. K. Haywood,
Chairman Insecticide and Fungicide Board.

32. Labeling a roach powder composed of borax, French ocher, and sugar.

Gentlemen: * * * We are not familiar with the term "French ocher;" however, if this is similar to the usual ocher of commerce (a native ferruginous clay), then in a roach powder containing borax, French ocher, and sugar we are of the opinion that the borax is active, while the French ocher and sugar are inert. We therefore suggest either of the following forms of statement on the face of the principal label:

	Per cent.
Active ingredients:	
Borax	——
Inert ingredients	——

or

Inert ingredients:	
French ocher	——
Sugar	——

* * * * * * *

If your product consists principally of borax, then we are of the opinion that the words "Harmless to pet animals" should be removed from the label, since borax in sufficient quantities would be harmful to pet animals.

Respectfully,

J. K. Haywood,
Chairman Insecticide and Fungicide Board.

S. R. A.—INSECTICIDE 5. ISSUED AUGUST 20, 1914.

AMENDMENT NO. 3 TO THE RULES AND REGULATIONS FOR CARRYING OUT THE PROVISIONS OF THE INSECTICIDE ACT OF 1910.

Regulation 20 of the rules and regulations for the enforcement of the Insecticide Act of April 26, 1910 (36 Stat., 331), is hereby amended so as to read as follows:

Regulation 20. Guaranty. (Section 9.)

(*a*) It having been determined that the legend "Guaranteed by (name of guarantor), under The Insecticide Act of 1910," borne on the labels or packages of insecticides, Paris greens, lead arsenates, and fungicides, accompanied by serial numbers given by the Secretary of Agriculture, is misleading and deceptive, in that the public is induced by such legend and serial number to believe that the articles to which they relate have been examined and approved by the Government and that the Government guarantees that they comply with the law, the use of said legend, or any similar legend, on labels or packages should be discontinued. Inasmuch as the acceptance by the Secretary of Agriculture for filing of the guaranties of manufacturers and dealers and the giving by him of serial numbers thereto contribute to the deceptive character of legends on labels and packages, no guaranty in any form shall hereafter be filed with and no serial number shall hereafter be given to any guaranty by the Secretary of Agriculture. All guaranties now on file with the Secretary of Agriculture shall be stricken from the files, and the serial numbers assigned to such guaranties shall be canceled.

(*b*) The use on the label or package of any insecticide, Paris green, lead arsenate, or fungicide of any serial number required to be canceled by paragraph (*a*) of this regulation is prohibited.

(*c*) Any wholesaler, manufacturer, jobber, or other party residing in the United States may furnish to any dealer to whom he sells any insecticide, Paris green, lead arsenate, or fungicide, a guaranty that such article is not adulterated or misbranded within the meaning of the insecticide act of 1910.

(*d*) Each guaranty to afford protection shall be signed by, and shall contain the name and address of, the wholesaler, manufacturer, jobber, dealer, or other party residing in the United States making the sale of the article or articles covered by it to the dealer, and shall be to the effect that such article or articles are not adulterated or misbranded within the meaning of the insecticide act of 1910.

(*e*) Each guaranty in respect to any article or articles should be incorporated in or attached to the bill of sale, invoice, bill of lading, or other schedule, giving the names and quantities of the article or articles sold, and should not appear on the labels or packages.

(*f*) No dealer in insecticides, Paris greens, lead arsenates, or fungicides will be liable to prosecution if he can establish that the articles were sold under a guaranty given in compliance with this regulation.

This amendment shall become and be effective on and after May 1, 1916: *Provided*, That as to products packed and labeled prior to May 1, 1916, in accordance with law and with the rules and regulations for carrying out the provisions of the insecticide act of 1910, in effect prior to May 1, 1916, this amendment shall become and be effective on and after November 1, 1916: *And provided further*, That compliance with regulation 20, as hereby amended, will be permitted at any time after the date of the signing of this amendment.

W. G. McAdoo, *Secretary of the Treasury.*
D. F. Houston, *Secretary of Agriculture.*
William C. Redfield, *Secretary of Commerce.*

Washington, D. C., *June 30, 1914.*

GENERAL INFORMATION RELATIVE TO THE GUARANTY.

Circular letter sent to each manufacturer or seller who had filed a guaranty with the department and been assigned a serial number.

The records of the board show that you have filed a guaranty with the department in accordance with regulation 20 of the Rules and Regulations for Carrying Out the Provisions of the Insecticide Act of 1910, and that serial number —— was assigned to said guaranty for your use to guarantee to your vendees any insecticides or fungicides which may be manufactured or owned and sold by you.

The Secretaries of the Treasury, Agriculture, and Commerce have decided that the legend "Guaranteed by [name of guarantor] under the insecticide act of 1910," accompanied by serial numbers assigned by the Secretary of Agriculture, is misleading and deceptive, and on June 30, 1914, signed an amendment to regulation 20, a copy of which is inclosed, with request that it be read carefully.

The purpose of regulation 20, as amended, is to prevent the use upon the label or package of any insecticide, Paris green, lead arsenate, or fungicide of a statement which, in any way, might be construed as implying that any such product has been guaranteed or approved by the Government. It will be noted that the serial number or the guaranty legend "Guaranteed by ———, under the insecticide act of 1910," or any similar guaranty legend, should not be used on products packed or labeled on or after May 1, 1916. As to products which have been packed and labeled prior to May 1, 1916, an additional period of six months will be allowed. On and after November 1, 1916, however, no guaranty legend or serial number should appear upon the label or package of any insecticide, Paris green, lead arsenate, or fungicide while in the channels of commerce described in the insecticide act.

In the opinion of this department it would not constitute a sufficient compliance with the amended regulation if only the serial number issued by this department should be blotted out from the guaranty legend heretofore in common use. The use of the words "under the insecticide act of 1910" should also be discontinued, and any statement to the effect that the article is guaranteed should contain no reference to the United States or to the Department of Agriculture.

No objection, however, would be made by this department to a statement, if true, that the guarantor himself guarantees the quality of the contents of the package; nor, in the opinion of the department, would it constitute a violation of the regulation if it were stated, in substance, that the article is warranted by the manufacturer or other designated person to comply with the requirements of State laws.

It will not be necessary to wait until May 1, 1916, to remove the guaranty legend and serial number from labels, but the use of either the guaranty legend

or the serial number may be discontinued at any time. In that event, however, in order for guaranties under the insecticide act to afford the dealers protection from prosecution under the act, all the requirements prescribed in regulation 20, as amended by amendment 3, should be complied with.

The amended regulation contemplates that guaranties given under section 9 of the insecticide act on and after May 1, 1916, shall be incorporated in or attached to the bill of sale, invoice, bill of lading, or other schedule, giving the names and quantities of the articles. If the goods are properly described in the bill of sale or such other document, they may be referred to in the guaranty as listed in the bill of sale or other document without repetition of the detailed description. Guaranties may be printed or stamped on the bill of sale or other document mentioned in paragraph (*e*), and in order to afford protection must conform to paragraph (*d*) of the regulation. The signature to the guaranty may also be printed or stamped on the bill of sale or on the invoice, or on the bill of lading or other schedule, describing the goods sold, if transmitted by the guarantor direct to the dealer.

The department has no authority to prescribe the exact wording which must be used in making a guaranty, nor can it determine whether any particular guaranty submitted to it is legally sufficient to protect dealers from prosecution under the insecticide act. In the opinion of the department, however, a guaranty, if worded substantially according to the following form, will comply with the requirements of section 9 of the act:

I [we], the undersigned, do hereby guarantee that the insecticides or fungicides listed herein [or specifying the same] are not adulterated or misbranded within the meaning of the insecticide act of 1910.

[Signature and address of guarantor.]

You are advised further that it is not intended that the provision in paragraph (*a*) which states—

All guaranties now on file with the Secretary of Agriculture shall be stricken from the files, and the serial numbers assigned to such guaranties shall be canceled, shall affect the validity of such guaranties in respect to the particular articles of insecticides and fungicides covered thereby which have been sold or delivered by the guarantor to his vendee prior to the date when such guaranties shall have been stricken from the records of the department.

Respectfully,

J. K. Haywood,
Chairman Insecticide and Fungicide Board.

Section 9 of the insecticide act of 1910 providing for the guaranty.

Sec. 9. That no dealer shall be prosecuted under the provisions of this act when he can establish a guaranty signed by the wholesaler, jobber, manufacturer, or other party residing in the United States, from whom he purchased such articles, to the effect that the same is not adulterated or misbranded within the meaning of this act, designating it. Said guaranty, to afford protection, shall contain the name and address of the party or parties making the sale of such articles to such dealer, and in such case said party or parties shall be amenable to the prosecutions, fines, and other penalties which would attach in due course to the dealer under the provisions of this act.

Purpose of the guaranty.

It is the evident intention of section 9 of the act to provide a means whereby the dealer may be relieved of responsibility for the possible adulteration or misbranding of goods purchased from a wholesaler, jobber, manufacturer, or other party residing in the United States. In effect, the guarantor assumes the

responsibility for the character of his goods after they have passed out of his possession into the hands of purchasers who resell the same. A sufficient guaranty shifts to the guarantor the liability which would otherwise attach to subsequent dealers.

Guaranty on imported products.

Only a wholesaler, jobber, manufacturer, or other party residing in the United States can give a guaranty within the meaning of the insecticide act. A foreign manufacturer or other foreign dealer can not give a valid guaranty, nor can the agent of such foreign manufacturer, jobber, or dealer give such guaranty unless such agent be a resident of the United States and unless he actually sells the goods covered by the guaranty. A person residing in the United States who sells imported goods can make a guaranty for the purpose aforesaid, though the goods may be shipped directly by the firm from whom the guarantor buys them to the customer of the guarantor.

33. Labeling of soda lye.

DEAR SIR: At a recent hearing accorded certain manufacturers of lye and you as attorney representing the manufacturers, the following two questions were asked:

(1) What does the board understand by the term "pure" on soda lye labels, and to what commercial grades of soda lye can this term be correctly applied?

(2) What does the board understand by the term "high test" on soda lye labels, and to what commercial grades of soda lye can this term be correctly applied?

We have made a careful investigation of this subject, both by visits to a number of soda lye manufacturing plants and by letters of inquiry to many manufacturers of soda lye, large users of soda lye, etc. We find that soda lye in the United States is usually sold under the commercial grades of 60 per cent, 70 per cent, 74 per cent, and 76 per cent sodium oxid, while there occasionally appears an article under the commercial grade of 78 per cent (?) sodium oxid.

After carefully considering the methods of manufacture of soda lye and the opinions expressed by competent members of the trade, we have arrived at the following conclusions:

The highest grade soda lye made by most manufacturers is that which is sold as the commercial grade of 76 per cent sodium oxid.

Some few manufacturers seem to be able to produce a soda lye which is sold as the commercial grade of 78 per cent (?) sodium oxid.

The commercial grade of soda lye sold as 74 per cent sodium oxid may occasionally be produced as the end product in soda lye manufacture; however, it is usually produced by adding sodium chlorid or sodium sulphate to the commercial grade known as 76 per cent sodium oxid.

The commercial grades of soda lye sold as 60 per cent and 70 per cent sodium oxid are always made by adding sodium chlorid or sodium sulphate to the commercial grade known as 76 per cent sodium oxid.

In view of the above and the information obtained from the various members of the trade, we are of the opinion that the designation "pure lye" should only be applied to the highest grades of soda lye that can be produced by the commercial processes in vogue in the United States. This means that if the particular process in vogue at a plant produces the commercial grade of 78 per cent (?) sodium oxid lye as the highest grade product, it is entitled to the designation "pure," while if the particular process in vogue at a plant produces the commercial grade of 76 per cent sodium oxid lye as the highest grade product, it is entitled to the designation "pure." If, however, a manufacturer by his

usual commercial process produces a 78 per cent (?) sodium oxid commercial grade of lye and makes from this a 76 per cent sodium oxid commercial grade of lye by the addition of sodium chlorid or sodium sulphate, or both, such 76 per cent lye is not entitled to the designation "pure." In view of the fact that the 74 per cent grade of commercial lye is usually made by adding sodium chlorid, or sodium sulphate, or both, to the 76 per cent grade of commercial lye, and in view of the fact that the 70 per cent and 60 per cent grades of commercial lye are always made by adding sodium chlorid, or sodium sulphate, or both, to the 76 per cent grade of commercial lye, the commercial grades of lye known as 74 per cent, 70 per cent, and 60 per cent should not be designated "pure."

Relative to the term "high test," our investigation of the trade leads us to the conclusion that this can be correctly applied to the 78 per cent (?), 76 per cent, and 74 per cent commercial grades of soda lye, while it is not correct to apply this term to the 60 per cent and 70 per cent commercial grades of soda lye.

In view of the fact that this letter will be published in our Service and Regulatory Announcements for the benefit of the whole soda-lye trade, I am adding below certain opinions of the board which we have probably already made known to you either verbally or by correspondence, but which have not been transmitted to the whole soda-lye trade by reason of the fact that the information has not been requested.

We are of the opinion that soda lye is inherently an insecticide and is therefore subject to the provisions of the Insecticide Act of 1910, whether or not any insecticidal claims are made on the label. In consequence of this the labels of soda lye should bear the statement for inert ingredients or for active and inert ingredients required by section 8 of the act. For information relative to the form of statement required we respectfully call your attention to letter No. 2 in our February Service and Regulatory Announcements.

We are further of the opinion that if the percentages of any or all of the following substances are stated on soda-lye labels, viz, sodium oxid, sodium hydroxid, sodium carbonate, sodium sulphate, sodium chlorid, etc., the percentages so stated should be in accordance with facts, and the calculations of the amounts of the above constituents should be made on the basis of the most recently determined atomic weights of the various elements involved.

Hoping the above will be of servce, I am,

Respectfully,

J. K. Haywood,
Chairman Insecticide and Fungicide Board.

34. Labeling a fly killer composed of arsenic oxid and honey, absorbed by paper.

Dear Sir: We have received your communication of * * * relative to labeling a fly killer composed of honey and arsenic oxid, which substances are absorbed by a piece of felt or paper.

In such a mixture we are of the opinion that the various constituents of the honey and felt or paper are inert, while the arsenic oxid is active. We suggest the following as the most feasible form of statement on the face of the principal label:

Active ingredient:	Per cent.
Arsenic oxid	——
Inert ingredients	——
Total arsenic (expressed as per centum of metallic arsenic)	——
Arsenic in water-soluble forms (expressed as per centum of metallic arsenic)	——

In the above statement the percentages of total arsenic (expressed as per centum of metallic arsenic) and arsenic in water-soluble forms (expressed as per centum of metallic arsenic) will be the same, since arsenic oxid is considered a water-soluble form of arsenic. * * *

Respectfully,

J. K. Haywood,
Chairman Insecticide and Fungicide Board.

S. R. A.—INSECTICIDE 6. ISSUED NOVEMBER 12, 1914.

35. Application of the insecticide act of 1910 to substances commonly used for insecticidal or fungicidal purposes which are also employed for other purposes.

Dear Sir: We have received your communication * * * requesting information relative to the labeling of sulphur under the provisions of the insecticide act of 1910.

We are of the opinion that the provisions of the law apply to all substances commonly used as insecticides or fungicides, whether or not the labels give directions for insecticidal or fungicidal uses. Since sulphur is commonly used as an insecticide and fungicide, we are of the opinion that as such it is within the definition of an "insecticide" under section 6 of the insecticide act.

If the character of such a product depends on the actual intention or purpose of the shipper in transporting or selling it, the effect would be to allow an obvious loophole for the palpable evasion of the requirements of the insecticide act as to all or a large number of substances commonly used for insecticidal or fungicidal purposes which are also employed for other purposes. This the department does not believe was the intent of the act.

If a product, by virtue of its inherent character, is within the purview of the act, it would appear its character as such can not be changed by a statement on the label to the contrary, such as a declaration to the effect that it is "not intended for insecticidal purposes." In other words, if a product is within the definition of the act, regardless of the actual intent or purpose of the shipper respecting its use, it would be none the less within the meaning of the act, notwithstanding a statement on the label attempting to show that it is not intended for insecticidal or fungicidal purposes.

Respectfully,

J. K. Haywood,
Chairman Insecticide and Fungicide Board.

36. Labeling a roach powder composed of borax, Paris green, plaster of Paris, and chamomile.

Dear Sir: We have received your communication of * * * relative to labeling a roach powder under the provisions of the insecticide act of 1910. * * *.

In accordance with section 8 of the insecticide act of 1910, the face of the principal label of this product should bear a statement giving the names and percentage amounts of each and every inert ingredient and the fact that they are inert, or, in lieu of this, a statement giving the names and percentage amounts of each and every active ingredient and the total percentage of inert ingredients.

The face of the principal label should bear, in addition to the above, a statement of the total arsenic (expressed as per centum of metallic arsenic) and the arsenic in water-soluble forms (expressed as per centum of metallic

arsenic). In a roach powder of borax, Paris green, chamomile, and plaster of Paris, we are of the opinion that the borax and Paris green are active against roaches and the plaster of Paris inert. Whether or not the chamomile is active against roaches we are unable to say, so can only suggest that this be placed in the hands of a competent entomologist for experimental determination.

Respectfully,

J. K. HAYWOOD,
Chairman Insecticide and Fungicide Board.

37. Labeling a roach powder composed of commercial sodium fluoride, pyrethrum flower heads, and pyrethrum stems.

DEAR SIR: We have received your communication of * * * requesting information relative to the active and inert ingredients in a roach powder.

As we understand the preparation, it is composed of 50 per cent commercial sodium fluorid and 50 per cent a mixture of the powdered pyrethrum flower heads and stems. In such a mixture we are of the opinion that the sodium fluorid itself (NaF), the powdered flower heads, and the powdered stems are probably all active against roaches; however, the impurities of commercial sodium fluorid consisting of sodium sulphate, sodium chlorid, etc., are inert. We may add that we have made a considerable study of commercial samples of sodium fluorid and have found that none of them consists entirely of sodium fluorid, but that all contain sodium sulphate, sodium chlorid, etc., amounting in some cases to as much as 15 per cent.

In such a mixture as the above we suggest the following form of statement on the face of the principal label:

	Per cent.
Active ingredients:	
Sodium fluorid [1]	----
Pyrethrum powder containing stems	----
Inert ingredients	----

You of course have the alternative of giving the names and percentage amounts of each and every inert ingredient and the fact that they are inert; however, we do not believe that this is a very feasible form of statement, since the sodium sulphate, sodium chlorid, etc., in different batches of commercial sodium fluorid vary to such a marked extent that it would be a difficult matter to adopt any one statement for the inert ingredients that would be applicable to all of your goods.

Respectfully,

J. K. HAYWOOD,
Chairman Insecticide and Fungicide Board.

S. R. A.—INSECTICIDE 7. ISSUED FEBRUARY 10, 1915.

38. Labeling mixtures of cyanids and chlorids, or cyanids, chlorids, and carbonates, variously designated "cyanid mixture," "potassium cyanid," and "cyanid."

DEAR SIR: We have received your communication of * * * requesting information relative to labeling certain preparations under the provisions of the insecticide act of 1910, which contain varying quantities of sodium cyanid, together with varying quantities of sodium chlorid, potassium chlorid, and sodium carbonate.

[1] By sodium fluorid is meant the amount of NaF present.

As we understand your letter, your basic product is commercial sodium cyanid containing about 1 per cent or 2 per cent of inert impurities. To this you may add varying amounts of sodium chlorid or varying amounts of sodium chlorid and potassium chlorid, thus making a mixture of cyanid and chlorid. Again, you may add to your original commercial sodium cyanid varying amounts of sodium chlorid and sodium carbonate, or sodium chlorid, potassium chlorid, and sodium carbonate, or potassium chlorid and sodium carbonate, thus making a mixture of cyanid, chlorid, and carbonate.

We are of the opinion that it is not satisfactory to designate either the mixture of cyanid and chlorid or the mixture of cyanid, chlorid, and carbonate as "cyanid mixture," since such a designation would lead the consumer to believe that the products were mixtures of various cyanids, rather than mixtures of cyanids with other salts. For the first of these mixtures we suggest the designation "cyanid-chlorid mixture," and for the second "cyanid-chlorid-carbonate mixtures." It appears almost unnecessary to add that none of the products described above should be labeled "potassium cyanid," since such a designation is false and misleading.

Section 8 of the act is specific in requiring a statement on the face of the principal label of the correct names and percentage amounts of each and every inert ingredient and the fact that they are inert, or, in lieu of this, a statement of the correct names and percentage amounts of each and every active ingredient and the total percentage of inert ingredients.

In commercial sodium cyanid we are of the opinion that the actual sodium cyanid (NaCN) present is active, while the various impurities are inert. For such a product the following form of statement is suggested:

	Per cent.
Active ingredient:	
Sodium cyanid	——
Inert ingredients	——

In a mixture of commercial sodium cyanid and sodium chlorid, or commercial sodium cyanid, sodium chlorid, and potassium chlorid, we are of the opinion that the actual sodium cyanid present is active, while the sodium chlorid, potassium chlorid, and the impurities in the commercial sodium cyanid used are inert. For such a product the following form of statement is suggested:

	Per cent.
Active ingredient:	
Sodium cyanid	——
Inert ingredients	——

In a mixture of commercial sodium cyanid with chlorids and carbonates such as is described above, we are of the opinion that the actual sodium cyanid present is active, while the sodium chlorid, potassium chlorid, sodium carbonate, and various impurities in the commercial sodium cyanid used are inert. For such a mixture the following form of statement is suggested:

	Per cent.
Active ingredient:	
Sodium cyanid	——
Inert ingredients	——

If, *in addition* to the above statements, which are required by law, you also wish to place on the labels the percentage amount of cyanogen present, and to state also that the cyanogen is equivalent to a certain percentage of potassium cyanid, there is no objection to your so doing, provided that the extra state-

ments are true, and provided further that the extra statements are not made in such a way as to confuse or make less plain the statement required by law.

Respectfully,

J. K. Haywood,
Chairman Insecticide and Fungicide Board.

39. General principles relative to disinfecting with chlorinated lime or bleaching powder. To aid manufacturers in preparing bleaching-powder labels.

Dear Sir: In connection with a hearing given you recently at Washington as the representative of certain bleaching-powder manufacturers, three cases which have been taken up by correspondence with the manufacturers were discussed. * * *

You informed the board that you were willing to correct these labels, but would like definite instructions from the board as to how they were to be changed.

We do not feel that it is the function of the board to suggest exact directions to appear on the labels of various insecticides and fungicides. The manufacturers should formulate their own directions, based on their own product and advice from competent scientists (in this particular case, advice from bacteriologists familiar with practical methods of disinfecton). We are glad, however, to point out certain general principles to you and refer you to works which give valuable information relative to the use of chlorinated lime and other disinfectants.

In connection with books on this subject, we respectfully refer you to Rideal's work, entitled "Disinfection and the Preservation of Food," published by Wiley & Sons, New York and London, and Hooker's work on "Chloride of Lime in Sanitation," also published by Wiley & Sons, New York and London.

Relative to general principles of disinfecting with chlorinated lime, we beg to inform you as follows:

1. In disinfecting sick chambers a solution of the chlorinated lime of sufficient strength (strengths from one-half to 2 per cent are recommended by different authors) should be used. The floors should be well mopped; the bed, window sills, walls etc.—in fact, anything which may have come in contact with the patient or any of his discharges—should be well washed with a solution of proper strength. Also the bed linen, the dishes used by the patient, the hands of persons touching the patient, etc., should be immersed in the solution. In fact, the solution to be effective must be used in such a way that all germs are touched by a solution of sufficient strength to kill them.

2. For disinfecting sewage a good grade of bleaching powder is used, at the rate of about 1 pound to 8,000 gallons.

3. For disinfecting cesspools a good grade of bleaching powder is used, at the rate of about one-half pound, preferably first dissolved in water, to 1,000 gallons of material to be disinfected. If the cesspool is of the leaching type, add the bleaching powder once a month. If it is a tight cistern, add the bleaching powder just before pumping out the contents of the cesspool.

4. For drains, such as drain from kitchen sink, add a small amount of the powder daily.

5. For deodorizing cellars the product may be sprinkled about dry or in solution, one-quarter pound to half a gallon of water. If, however, the cellars are contaminated with disease germs, the above treatment will not suffice to disinfect the cellar, but it will be necessary to spray or wash down the walls, floors, etc., just as in sick rooms.

6. The use of hydrochloric acid with bleaching powder should not be recommended, owing to the fact that the great volume of chlorin liberated would be poisonous to human beings and would render the place uninhabitable for a time.

7. The disinfection of schoolrooms in such a way as materially to lessen the danger of spreading contagious diseases is practically impossible. However, if a child were taken sick in a schoolroom and were to throw up it would be advisable to disinfect the material thrown up, which could be done by sprinkling it well with bleaching powder, either dry or in solution.

We respectfully suggest that in giving directions on bleaching-powder labels you keep constantly in mind the difference between disinfectant and deodorant action, remembering that the first is directed against germs and the second against odors. It should be borne in mind that directions may be given which are effective against odors, but are ineffective against germs. A discussion of the difference between deodorants and disinfectants will be found in the first few pages of the work of Rideal previously cited.

Hoping that the above general principles for disinfecting with chlorinated lime, together with the information that will be found in the works cited, will be of service, I am,

Respectfully,

J. K. Haywood,
Chairman Insecticide and Fungicide Board.

S. R. A.—INSECTICIDE 8. ISSUED APRIL 3, 1915.

40. Notice to manufacturers of so-called liquid lice killers.

It has come to the notice of the Insecticide and Fungicide Board that a great many manufacturers are putting out liquid preparations for killing chicken lice under such names as "Liquid Lice Killer," "Lice Killer," "Lice Killing Liquid," etc. These preparations are for the most part composed of one or more of the following liquids: Kerosene, crude petroleum, crude carbolic acid, creosote oil, and various other fractions of petroleum and coal tar, as well as turpentine. In giving directions for the use of these preparations against chicken lice it is a common practice to direct that they be applied to one or more of the following places: Roosts, dropping boards, wide boards nailed beneath the roosts, nest boxes, inner walls of the chicken house, etc.

Another less common direction for the use of these preparations against chicken lice is to paint the inside of a box with the preparation, place the chicken or chickens in the box, cover loosely with a burlap bag and leave for a certain length of time.

It is evident from both of the above-mentioned directions that the manufacturer considers that the fumes which arise from such preparations will kill the chicken lice when the products are used in accordance with directions.

The board has now tested a very large number of these preparations and so far has failed to find a single one which is effective against chicken lice when used in accordance with the first set of directions given.

Some few of the preparations were found to be more or less effective against chicken lice when used in accordance with the second set of directions given, provided that the chicken or chickens were left in the burlap-covered box for about an hour. It may be added, however, that such a treatment might in certain cases be injurious to the chicken.

It is therefore evident that the fumes given off from these preparations in a modern poultry house are not sufficiently strong, or, in other words, are not in

sufficient concentration in any case tested by us to kill chicken lice on the chickens. In some few cases the fumes which arise are sufficient to be more or less effective against chicken lice when the fowls are confined with said fumes in a burlap-covered box for a considerable period of time.

It was further found by the entomologists of the board that most of the above-mentioned preparations were effective against chicken mites when said preparations were very thoroughly sprayed over the whole inside of the poultry house, in all cracks and crevices of the poultry house, and over all roosts, supports, dropping boards, and nest boxes.

The reason why the above statements are true is obvious when the difference between chicken lice and chicken mites and their different habits are taken into consideration. Chicken lice pass their life cycle on the fowl, and chickens are for the most part infested with lice by direct contact or close association with a chicken already infested with lice. If any lice appear in the poultry house, not on the chickens, these are to be considered more or less accidental and not of great importance, since the natural habitat of the chicken louse is the chicken itself. On the other hand chicken mites live in the cracks and crevices of the poultry house, on the under side of roosts, etc., and attack the chicken for the most part at night, returning after such attacks to their natural habitat, i. e., the cracks and crevices of the poultry house, etc.

It is evident therefore that if one desires to remove chicken lice effectively some preparaiton must be used which can be applied directly to the lice on the chickens, such as a lice powder, dip, or spray, or some preparaions must be used that will give off sufficient fumes to kill the lice on the chicken by said fumes. It naturally follows if a preparation of the latter character is used it must be used in such a manner that the fumes will be in sufficient concentration to kill the lice on the chickens and at the same time not be injurious to the chicken. On the other hand if one wishes to remove chicken mites effectively some preparation should be used (such as creosote oil or kerosene oil) which will soak in all cracks and crevices of the poultry house, cover all roosts, walls, etc., and in this way by direct contact destroy the mites.

The board is of the opinion that such mixtures as are described in the first paragraph of this notice are not practical "Chicken-lice killers," but are "Chicken-mite killers," and should be used and sold as such. If in a few isolated cases directions can be given for the use of the preparation, such that when followed the preparation will succeed in removing lice from chickens effectively, then it will be satisfactory to sell preparations of this character as "Chicken-lice killers." However, the manufacturer should assure himself that the product will be effective against lice on chickens before making this claim on the label and that injury to the chickens will not result when the product is used in accordance with directions.

Such products as those described above, which come within the purview of the insecticide act of 1910, and are recommended for use against chicken lice when they will not, in fact, be effective against chicken lice when used in accordance with the directions given by the manufacturer, are misbranded under the provisions of the act, and the shipper is subject to prosecution under section 2 of the act, while the shipment is subject to seizure under section 10 of the act.

41. Sodium sulphate in commercial Paris green.

GENTLEMEN: * * * The department does not expect that the commercial Paris green will be absolutely free of sodium sulphate. However, we do expect that this constituent will not be present in excessive amounts.

We have examined many samples of commercial Paris green and are satisfied from our work that there is no reason why the sodium sulphate in commercial Paris green should amount to more than 1 per cent, provided the green is properly washed when it is being prepared. That the sodium sulphate can be kept below 1 per cent by proper washing is shown by the fact that the Paris greens of some manufacturers never, or practically never, contain more than this amount of the constituent; that the Paris green of other manufacturers only contains very slightly more than 1 per cent sodium sulphate, and that the average amount of sodium sulphate in the Paris green of a large number of manufacturers amount to less than 1.2 per cent.

In samples of your Paris green recently examined by us we have found over 3 per cent sodium sulphate, which can easily be reduced to a reasonable figure (1 per cent or below) by proper washing of your green. With 3 per cent sodium sulphate in the green, you will at once see that the manufacturer in every 100 pounds of his goods sells 3 pounds of sodium sulphate at the price of Paris green. This may not amount to very much in any one case; however, in the aggregate, it amounts to a considerable gain to the manufacturer at the expense of the consumer.

Respectfully,

J. K. Haywood,
Chairman Insecticide and Fungicide Board.

42. Labeling of soda lye.

Gentlemen: * * * Relative to labeling soda lye as caustic potash, we beg to inform you that, in our opinion, a product so labeled would undoubtedly be misbranded and adulterated under the provisions of the insecticide act of 1910.

Respectfully,

J. K. Haywood,
Chairman Insecticide and Fungicide Board.

S. R. A.—INSECTICIDE 10. ISSUED AUGUST 31, 1915.

43. Notice to manufacturers of kerosene emulsions.

It has been noted by the department that kerosene emulsions made by certain manufacturers cause serious injury to the foliage of various plants when used as a summer spray at the dilutions recommended on the label by the manufacturer.

These so-called kerosene emulsions on analysis often show a water, soap, and oil content which indicates that they have been prepared in accordance with the commonly used formula of 1 gallon of water, ½ pound of soap, and 2 gallons of oil, or in accordance with a formula which gives practically the same percentage of oil. However, when they are used on foliage at the dilutions recommended by the manufacturer they seriously burn the foliage of many varieties of plants, whereas a well-made kerosene emulsion prepared by the department in accordance with the same formula does not burn the same varieties of plant to any extent when used as a summer spray at the same dilutions. For example, a well-made kerosene emulsion prepared by the department in accordance with the above formula did not show any serious injury to the foliage of a considrable number of plants when used at a dilution of 1 to 15 or 1 to 20, yet when so-called kerosene emulsions containing practically the same amounts of oil were used at these dilutions on the same plants the injury was very serious.

A study of this question has convinced the department that some manufacturers are not preparing their kerosene emulsions correctly, so that when they are mixed with water the oil separates out and the products therefore burn vegetation, which they would not burn if the emulsions were correctly prepared. There are also some indications that some manufacturers are using in their "kerosene emulsions" certain fractions of petroleum which are quite different from kerosene and are perhaps the cause of this excessive burning.

It is suggested that manufacturers who are preparing kerosene emulsions take careful note of the above-mentioned findings of the department and change their method of manufacture, if a change is needful, since kerosene emulsions subject to the provisions of the insecticide act of 1910, which cause injury to the vegetation on which they are recommended to be used when used at the dilutions recommended are adulterated under the last paragraph of section 7 of the insecticide act of 1910, which reads as follows:

That for the purpose of this act an article shall be deemed to be adulterated * * * in the case of insecticides or fungicides other than Paris green and lead arsenate: * * * fourth, if it is intended for use on vegetation and shall contain any substance or mixture of substances which, although preventing, destroying, repelling, or mitigating insects, shall be injurious to such vegetation when used.

S. R. A.—INSECTICIDE 11. ISSUED NOVEMBER 24, 1915.

44. Notice to manufacturers of coal-tar creosote and cresol dips.

Prior to July 1, 1914, tobacco dips, lime and sulphur dips, cresol dips, and coal-tar creosote dips, based upon examinations of samples submitted by the manufacturers, were permitted for use in definite strength in the official dipping of sheep for scabies, in accordance with the "Regulations of the Secretary of Agriculture Governing the Inspection, Disinfection, Treatment, Handling, and Method and Manner of Delivery and Shipment of Live Stock which is the Subject of Interstate Commerce," B. A. I. Order 143. Manufacturers were required by these regulations to place upon labels of preparations so permitted the following statement:

A sample of this product has been submitted to the United States Department of Agriculture for examination. We guarantee the contents of this package to be of the same composition as the sample submitted to the department, and that when diluted according to the directions printed hereon for the treatment of sheep scab it will give a dipping fluid of the composition required of a ———[1] dip by the regulations of the Secretary of Agriculture governing sheep scab.

Manufacturers also agreed to recommend for sheep scab the dilution of their preparation permitted by the department. In this latter connection labels frequently carried such expressions as "official strength," "For official dipping," etc., this being followed by the dilution permitted.

While these products properly prepared were known to be effective when applied at the prescribed dilution, it was demonstrated that the strength of the diluted preparation is weakened when a large number of animals are passed through the dip, certain of the active principles being lost to a greater or less degree. It was therefore considered advisable by the Bureau of Animal Industry to permit, in official dipping of sheep for scabies, only such preparations as would effectually eradicate scabies infection, without injury to the

[1] The name of the class of dips to which the product belonged, such as "Cresol" or "Lime and Sulphur," etc., was inserted here.

animals dipped, when applied at a definite dilution, the strength of which could be determined in the field at any time during dipping by means of a practical portable testing outfit, the dip to be fortified, when found necessary, by adding the original undiluted material in the amount indicated by the test.

On or about June 19, 1914, all manufacturers of preparations then permitted for use in the official dipping of sheep for scabies were advised by the department, through a circular letter, that such permission would be withdrawn after June 30, 1914, for the use of all tobacco dips, coal-tar creosote, and cresol preparations in the official dipping of sheep for scabies, and that subsequent to that date only lime-sulphur solutions would be permitted,[1] and that no preparation, other than the lime-sulphur dips, would be given department permission for use in official dipping of sheep for scabies, unless certain requirements which appear in B. A. I. Order 210, regulation 4, section 5, paragraph 2, which order superseded B. A. I. Order 143, were compiled with.

Amendment 4 to B. A. I Order 210, effective March 1, 1915, granted permission for the use of certain nicotine dips containing sulphur, in official dipping of sheep for scabies, a satisfactory field test having been devised through the application of which the required dilution of this class of preparations could be maintained.

Since the revised regulations now effective exclude from official dipping certain preparations which were previously permitted under regulation 33, B. A. I. Order 143, and upon the containers of which the guaranty statement was required by these old regulations, it follows that the appearance of this guaranty legend, or any reference to the use of the article in official dipping, upon packages or labels of such preparations entering interstate commerce, or otherwise subject to the provisions of the insecticide act of 1910, other than permitted brands of lime-sulphur dips and nicotine dips after June 30, 1914, in the first case, and March 1, 1915, in the second case, would be misleading and deceptive, and the articles consequently misbranded under the insecticide act of 1910.

Manufacturers of preparations affected are hereby informed that on and after the date of issuance of this notice no statement or statements indicating that an article may be used in official dipping shall appear upon the label (see regulation 10 of the Rules and Regulations for Carrying out the Provisions of the Insecticide Act of 1910) of such article unless permission for the use of said article for the aforesaid purpose has been granted by the department under the regulations as set forth in B. A. I. Order 210 and amendments thereto. It is respectively suggested that manufacturers may utilize labels which are defective only by reason of the presence of the guaranty legend quoted above, with or without statements indicating that the article may be used in official dipping or that the dilution recommended is officially recognized by the department, by entirely obliterating such legend and such statements if they appear, the method of obliteration depending, of course, upon the style of label.

S. R. A.—INSECTICIDE 14. ISSUED OCTOBER 11, 1916.

45. Action against bedbugs of a powder composed of quassia, eucalyptus leaves, angelica, white hellebore, sodium borate, and sodium fluorid.

The above-mentioned substances have all been separately tested against bedbugs and have found to be inert, hence such a mixture as the above is not effective against bedbugs and should not be sold as a bedbug powder.

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[1] A satisfactory field test having been devised, through the application of which required dilutions of this class of preparations could be maintained.

46. Action against roaches of sulphur and anise seed.

The above-mentioned substances have been tested against roaches by the entomologists of the board and have been found to be inert.

47. Labeling a roach powder composed of quassia, colocynth, sodium fluorid, sodium borate, and copper sulphate.

In accordance with section 8 of the insecticide act of 1910, the face of the principal label should bear a correct statement of the names and percentage amounts of each and every inert ingredient and the fact they are inert, or, in lieu of this, a correct statement of the names and percentage amounts of each and every active ingredient and the total percentage of inert ingredients.

In a roach powder composed of the ingredients mentioned, it is the opinion of the board that sodium fluorid, sodium borate, and copper sulphate are active, while the quassia and colocynth are inert.

48. Labeling a roach powder composed of borax, cinnamon, chittim bark, and colocynth pulp.

In accordance with section 8 of the insecticide act of 1910, the face of the principal label should bear a correct statement of the names and percentage amounts of each and every inert ingredient and the fact they are inert, or, in lieu of this, a correct statement of the names and percentage amounts of each and every active ingredient and the total percentage of inert ingredients.

In a roach powder composed of the ingredients mentioned, it is the opinion of the board that the borax is active, while cinnamon and colocynth pulp are inert. The board has never tested chittim bark against roaches, hence we can not say whether it is active or inert. We respectfully suggest that the manufacturer have this ingredient tested against roaches by a competent entomologist, since the manufacturer is responsible for placing on his label the statement relative to ingredients required by section 8 of the act.

49. Relative to removal from labels of the guaranty legend and serial numbers.

A number of inquiries have been received by the board as to the attitude of the department in respect to extending the time within which vendors may continue to use serial numbers and the guaranty legend in labels. Amendment No. 3 to the rules and regulations for carrying out the provisions of the insecticide act of 1910, issued June 30, 1914, reads in part:

This amendment shall become and be effective on and after May 1, 1916: *Provided*, That as to products packed and labeled prior to May 1, 1916, in accordance with law and with the rules and regulations for carrying out the provisions of the insecticide act of 1910, in effect prior to May 1, 1916, this amendment shall become and be effective on and after November 1, 1916: *And provided further*, That compliance with regulation 20, as hereby amended, will be permitted at any time after the date of the signing of this amendment.

In view of the limited number of guaranties filed under the insecticide act, the board has been able to bring amendment No. 3 to the specific attention of all guarantors, with the result that at the present time there are very few serial numbers and legends appearing on labels of insecticide and fungicide preparations.

The investigations made by the board, and also the absence of any action or representations on the part of holders of serial numbers to have the time extended beyond the periods May 1 and November 1, 1916, has convinced the department that an extension of the time will serve no urgent need.

Accordingly it will be noted that the serial number or the guaranty legend "Guaranteed by (name of the guarantor) under the insecticide act of 1910," or any similar guaranty legend, should not be used on products packed or labeled on or after May 1, 1916. As to products which have been packed and labeled prior to May 1, 1916, an additional period of six months will be allowed. On and after November 1, 1916, however, no guaranty legend or serial number should appear upon the label or package of any insecticide, Paris green, lead arsenate, or fungicide while in the channels of commerce described in the insecticide act.

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